

an oscillator support having a first support surface shrink-fit and directly abutting said spacer, said first support surface intersecting a direction along which the length of said magnetostriction oscillator changes, and a second support surface shrink-fit and directly abutting a second end surface of said magnetostriction oscillator, said second support surface intersecting the direction along which the length of said magnetostriction oscillator changes, whereby said support applies a load to said magnetostriction oscillator so that the changes in the length of said magnetostriction oscillator due to the magnetic excitation of said excitation coil are supported by said first support surface, through said spacer, and said second support surface.